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Internet Banking: An Empirical Study of Customers Perception in NCR, India

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Abstract: The purpose of this paper is to know the perception of the customers' towards dimensions of E-banking between public and private banks across Accuracy, Cost Effectiveness, Efficiency, Accessibility and Easy to use. A convenience sampling technique was used to recruit 320 customers through a well designed questionnaire from three Public Banks i.e. SBI, Punjab National Bank and Bank of Baroda and three Private Banks i.e. ICICI, HDFC and Axis Bank of NCR, India. The questionnaire is representing the desired range of demographic characteristics e.g. Gender, Age, and Occupation. Data has been analysed by reliability analysis, factor analysis, descriptive analysis and Independent Sample t-test. This research showed that all dimensions of E-banking i.e. Accuracy, Cost Effectiveness, Efficiency, Accessibility and Easy to use indicate significant difference between Public and Private Banks of NCR, India.
Keywords: E-Banking, Customer Perception, Public and Private Banks, T-test

INTRODUCTION

E-banking in India

Banks play a dominant role in India's financial organization and are, therefore, expected to play an important role in furthering the agenda of financial inclusion with a view to achieving inclusive growth and development [1]. In 1980, the first e-banking services were launched in India and the initial ranges of services were limited. However, combined with a number of developments, such as increase width of services and increased number of internet users, the size of customers have increased significantly. Now, all major banks in India are offering the internet based services or e-banking, to attain information about account details, make internet transactions and purchase online or sell securities.

In 2001, State Bank of India (SBI) offered its internet banking services to customers and other public sector banks such as Bank of Baroda (BOB), Allahabad Bank, Syndicate Bank and Bank of India. These banks also introduced their internet banking services in the same period of time. Industrial Credit and Investment Corporation of India (ICICI) was the first private bank which gave its e-banking services in 1996 and other private sector banks like Citibank, IndusInd bank and Housing Development Finance Corporation Limited (HDFC) bank started offering e-banking services in 1999 only**.**

In 2010 the total amount of internet bank users was estimated to be 100,000,000, which is about 8.5 percent of India's population. Recently, the speed and excellence of banking has changed by the latest technological advancements. Core banking solutions is the most important facility which improves the competency of banking services. Further, introduction of automated teller machines (ATMs) enabled customers to perform banking operations anytime. ATM is a highly accepted e-banking service among customers and works as an alternative banking channel [2]. Initially it was limited to the disbursal of cash but now it is used for delivery of a wide range of banking services such as accessing the account information, depositing cash, withdrawing money, generating mini-statement and online shopping, recharging online, booking tickets and many such facilities.

Table-1: Growth in ATM Installation (as on 31st march 2011)

Banks	Number
Public Sector Banks	49,487
Private Sector Banks	23,651
Old Private Sector Banks	4,126
Foreign Banks	1,367
Total	74,505

Source: [14]

About 70% of the total ATMs are in urban/metro areas. Public sector banks have stronger reach in rural areas [3]. At present total number of ATMs in the country stands at 98,074, of which 38 per cent are owned by private sector banks, 33 per cent by public sector banks, 27 per cent by the SBI and associates, and the remaining 2 per cent by foreign banks. There has been a 30 per cent year-on-year growth in the number of ATMs installed in the country since 2008. "During 2011-12, additional 21,000 ATMs were installed by the banks. Public sector banks (PSB) accounted for more than 60 per cent of the total number of ATMs as at end-March 2012; while close to one-third of the total ATMs were attributable to new private sector banks" (Reserve Bank of India, 2011, p. 80). In recent years, off-site ATMs play a significant role by providing the basic banking services to the customers of rural areas like cash withdrawal, account information and money transfer. During 2011-12, there was an addition of 14,365 new off-site ATMs [1].

REVIEW OF LITERATURE

Sohail and Shanmugham[5] analyse that internet accessibility, awareness, attitude towards change, computer and internet access costs, security concerns, ease of use and convenience are the major factors affecting the adoption of internet bank services in Malaysia. Padachi, Rojid and Seetanah [6] ascertained the factors that influence the adoption of internet banking in Mauritius. Finding shows that most significant factor which affecting the adoption of internet banking in Mauritius are ease of use, reluctance to change, trust and relationship in banker, cost of computers, internet accessibility, convenience of use and security concerns. Omar, Sultan, Zaman and Bibi [7] gauged the customers' perception about the usage of online banking in Pakistan. The key parameters of the study were reliability, convenience, speed, safety, cost effectiveness, user-friendly, and error free, security problems, lack of trust and knowledge of e-banking services, ATM machine problems, cash depositing facility through ATM machines, "SMS/E-mail alert" service, transfer funds through ATM machines, payment of utility bills and customer satisfaction. The results also show that reliability, convenience, speed, safety and security have the major contribution to retain and attract the customers. Kumbhar [8] assessed the relationship between perceived quality, brand perception and perceived value with satisfaction. In this study, 14 key variables of service quality such as system availability, e-fulfilment, accuracy, efficiency, security, responsiveness, compensation, convenience, contact facilities, easy to use, cost effectiveness and problem handling were taken for the study. Results indicates that compensation, convenience, contact facilities, easy to use, responsiveness, cost effectiveness and system availability including brand perception and perceived value were important factors. Kumbhar [9] examined the relationship between service quality and customers' satisfaction in internet banking. Thirteen key variables such as overall satisfaction, system availability, e-fulfilment, accuracy, efficiency, security/assurance, responsiveness, easy to use, convenience, cost effectiveness, problem handling, compensation and contact were used in this research by the author. Finding shows that there is significant difference in the customers' perception in internet banking services. Further finding indicates that private sector banks are better than the public sector banks in terms of internet banking services. Kumar and Garg [10] evaluated the perception of customers towards service quality of internet banking. Six key dimensions of net banking services such as ease to use, efficiency, trust and security, customer contacts, accessibility and problem handing were used for the study. Finding indicates that perception of customer towards internet banking service quality largely depends on ease of use, efficiency, trust & security, accessibility, problem handing and customer contacts. Rani [11] measured the perception of the customers towards services of e-banking. In this study, six factors of e-banking such as easy to use, safety & security, accurate &up-to-date information, availability, cost effectiveness and time saving were taken. Finding exhibits that customers have positive perception towards the e-banking services such as easy to use, safety & security, accurate & up-to-date information, availability, cost effectiveness and time saving. Prameela [13] analyzed the perceptions of the customers on the technology deployment in Andhra Bank & ICICI Bank. The variables included in this research were tangibility, reliability, responsiveness, assurance, empathy, efficiency, accuracy, security, easy and convenient banking. Finding reveals that the perception and experience of the customers on the technology deployment were in favour of up gradation of technology.

Objectives of the Study

- To determine the differences in customers' perception towards dimensions of E-banking in public and private banks.
- To suggest/propose strategies of E-banking for public and private banks.

Hypotheses

Ho_1: There is no significant difference in the mean value of Accuracy as a dimension of E-banking between the Public and Private Banks.

Ho_2: There is no significant difference in the mean value of Cost Effectiveness as a dimension of E-banking between the Public and Private Banks.

Ho_3: There is no significant difference in the mean value of Efficiency as a dimension of E-banking between the Public and Private Banks.

Ho4: There is no significant difference in the mean value of Accessibility as a dimension of E-banking between the Public and Private Banks.

Ho5: There is no significant difference in the mean value of Easy to use as a dimension of E-banking between the Public and Private Banks.

METHODOLOGY

In the present study data was collected with the help of a well structured questionnaire from selected cities of National Capital Region (NCR) i.e. Faridabad, Gurgaon, Ghaziabad, Noida and New Delhi. the author has selected top three public banks i.e. State Bank of India, Bank of Baroda, Punjab National Bank and top three private banks i.e. ICICI, HDFC, Axis Bank of NCR. About 500 questionnaires have been distributed out of which 320 completely filled questionnaire have been received from the public and private banks customers of NCR, India. The sample for this study is selected on the basis of convenience sampling method because it is an easy way to collect data for further analysis. The questionnaire is based on Likert'sfive point scale ranging from "Highly Satisfied"- (5) to "Highly Dissatisfied"- (1). Customers can select the desired option according to their satisfaction and dissatisfaction level. The questionnaire comprises of two sections: section 'A' on respondents socio-demographic characteristics and section 'B' is represents e-banking dimensions. The section 'A' depicts the demographic information of the respondents i.e. Name of the Bank, Gender, Education level, Income, Occupation and Internet usage. The section 'B' of the questionnaire contains close ended questions which are concerned to elicit information about the perception of the customers that have direct emphasis on the hypothesis of the study.

In this study Cronbach Alpha Test of Reliability is used to test the reliability of scale, KMO measure and Bartlett test of Sphericity is used for validity of the data. Finally t-test is used to show the differences between the perception of customers between the public and private banks. Data are computed and analysed via statistical packages for social science (SPSS) computer program version 19.0.

Reliability of the Scale

Reliability analysis is used to check the internal consistency of the instrument. The reliability of the statements and dimensions are assessed by the Cronbach's Alpha value to determine whether the questionnaire is reliable and data is used for further analysis. The Cronbach's Alpha value should be more than 0.6. The table show all the dimensions of e-banking have Cronbach's Alpha value more than 0.6 it means that data is suitable for further analysis.

Table-2: Reliability Analysis

S.No	Dimension	Statements	Cronbach's Alpha
1.	**Accuracy**	Problem solving through immediate information	0.717
2.		Bank insists on error-free transaction records	
3.		Service charges	
4.	**Cost effectiveness**	Commission for fund transfer	0.848
5.		Interest rate	
6.		Bill collection and payment	
7.		Transaction charges	
8.		Charges on switching of ATM	
9.	**Efficiency**	Faster log-in facility	.795
10.		Performance of plastic card(ATM ,Debit, Credit card)	
11.		Transfer of funds(NEFT, RTGS)	
12.		Clearing services (ECS-Debit, Credit)	
13.	**Accessibility**	Availability all 24 hrs/day,7day a week	.821
14.		Anytime conduct of transaction	
15.		Able to get on site promptly	
16.		Facilitates online shopping	
17.	**Easy to use**	Website provides valuable information	.791
18.		Website easy to use and navigate	
19.		User friendly system	

Factor Analysis

Factor analysis is a statistical technique used for replacing a large number of variables with a smaller number of "factors" that reflect what sets of variables have in common with one another [13].

Table-3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.820
Bartlett's test of Sphericity Approx. Chi-Square	607.373
Df	10
Sig.	.000

For the present study, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Barlett's test of Sphericity has been run to check data adequacy for conducting exploratory factor analysis. The value of Kaiser-Meyer-Olkin (KMO) is 0.820, which is greater than 0.6 [4] and significance value is .000 which indicates that data is sufficient for conducting factor analysis.

Rotated Component Matrix (RCM) gives classification of questions into 5 study variables and factor loading. Table 4 shows the results of rotated component matrix.

Table-4: Rotated Component Matrix

S.NO	Dimensions	Statements	Factor Loading
1.	**Accuracy**	Problem solving through immediate information	.691
2.		Bank insists on error-free transaction records	.654
3.		Service charges	.705
4.	**Cost effectiveness**	Commission for fund transfer	729
5.		Interest rate	741
6.		Bill collection and payment	.658
7.		Transaction charges	.768
8.		Charges on switching of ATM	.728
9.	**Efficiency**	Faster log-in facility	.598
10.		Performance of plastic card (ATM ,Debit, Credit card)	.505
11.		Transfer of funds (NEFT, RTGS)	.786
12.		Clearing services (ECS-Debit, Credit)	.742
13.	**Accessibility**	Availability all 24 hrs/day,7day a week	.749
14.		Anytime conduct of transaction	.807
15.		Able to get on site promptly	.558
16.		Facilitates online shopping	.540
17.	**Easy to use**	Website provides valuable information	.687
18.		Website easy to use and navigate	.731
19.		User friendly system	.762

This has been found that in the above table 4 all 19 statements have the factor loading more than 0.4 and so therefore the data is found suitable for further analysis.

Testing of Hypotheses

Ho_1: There is no significant difference in the mean value of Accuracy as a dimension of E-banking between the Public and Private Banks.

Table-5: Mean, Std. Deviation, T Value and Sig. Value of Accuracy between the Public and Private Banks

Results of T-test					
Accuracy vs. Type of Banks					
Type of Banks	**N**	**Mean**	**Std. Deviation**	**T value**	**Sig**
Public Banks	164	3.19	.795	-6.789	.000
Private Banks	156	3.75	.668		

The above table shows the results of Independent Sample T-test used to assess the differences in the perception of customers on Accuracy as a dimension of E-banking between the public and private banks. The t-value is -6.789 and sig. value is .000, which is less than 0.05, indicating that there is a significant difference in the mean value of Accuracy as a dimension of E-banking between the public and private banks.

Ho_2: There is no significant difference in the mean value of Cost Effectiveness as a dimension of E-banking between the Public and Private Banks.

Table-6: Mean, Std. Deviation, T Value and Sig. Value of Cost Effectiveness between the Public and Private Banks

Results of T-test					
Cost Effectiveness vs. Type of Banks					
Type of Banks	**N**	**Mean**	**Std. Deviation**	**T value**	**Sig**
Public Banks	164	3.08	.717	-6.032	.000
Private Banks	156	3.55	.696		

The above table shows the results of Independent Sample T-test used to assess the differences in the perception of customers on Cost Effectiveness as a dimension of E-banking between the public and private banks. The t-value is -6.032 and sig. value is .000, which is less than 0.05, and confirms that there is a significant difference in the mean value of customers' perception on Cost Effectiveness as a dimension of E-banking between the public and private banks.

Ho_3: There is no significant difference in the mean value of Efficiency as a dimension of E-banking between the Public and Private Banks.

Table-7: Mean, Std. Deviation, T Value and Sig. Value of Efficiency between the Public and Private Banks

Results of T-test					
Efficiency vs. Type of Banks					
Type of Banks	**N**	**Mean**	**Std. Deviation**	**T value**	**Sig**
Public Banks	164	3.49	.750	-7.238	.000
Private Banks	156	4.02	.545		

The above table shows the results of Independent Sample T-test that was employed to assess the differences in the perception of customers on Efficiency as a dimension of E-banking between the public and private banks. The t-value is -7.238 and sig. value is .000, which is less than 0.05, indicating that there is a significant difference in the mean value of Efficiency as a dimension of E-banking between the public and private banks

Ho_4: There is no significant difference in the mean value of Accessibility as a dimension of E-banking between the Public and Private Banks.

Table-8: Mean, Std. Deviation, T Value and Sig. Value of Accessibility between the Public and Private Banks

Results of T-test					
Accessibility vs. Type of Banks					
Type of Banks	**N**	**Mean**	**Std. Deviation**	**T value**	**Sig**
Public Banks	164	3.41	.871	-7.139	.000
Private Banks	156	4.01	.600		

The above table shows the results of Independent Sample T-test that was employed to assess the differences in the perception of customers on Accessibility as a dimension of E-banking between the public and private banks. The t-value is -7.139 and sig. value is .000, which is less than 0.05, indicating that there is a significant difference in the mean value of Accessibility as a dimension of E-banking between the public and private banks

Ho_5: There is no significant difference in the mean value of Easy to use as a dimension of E-banking between the Public and Private Banks.

Table-9: Mean, Std. Deviation, T Value and Sig. Value of Easy To Use between the Public and Private Banks

Results of T-test					
East to Use vs. Type of Banks					
Type of Banks	**N**	**Mean**	**Std. Deviation**	**T value**	**Sig**
Public Banks	164	3.54	.809	-4.976	.000
Private Banks	156	3.93	.559		

The above table shows the results of Independent Sample T-test engaged to assess the differences in the perception of customers on Easy to use as a dimension of E-banking between the public and private banks. The t-value is -4.976 and sig. value is .000, which is less than 0.05, which indicates that there is a significant difference in the mean value of Easy to use & Familiarity as a dimension of E-banking between the public and private banks.

Testing of Hypotheses

S. No.	Hypotheses	Result
Ho_1	There is no significant difference in the mean value of Accuracy as a dimension of E-banking between the Public and Private Banks.	Supported
Ho_2	There is no significant difference in the mean value of Cost Effectiveness as a dimension of E-banking between the Public and Private Banks.	Supported
Ho_3	There is no significant difference in the mean value of Efficiency as a dimension of E-banking between the Public and Private Banks.	Supported
Ho_4	There is no significant difference in the mean value of Accessibility as a dimension of E-banking between the Public and Private Banks.	Supported
Ho_5	There is no significant difference in the mean value of Easy to use as a dimension of E-banking between the Public and Private Banks.	Supported

CONCLUSION

This study seeks to make an original contribution to knowledge by investigating the perception of the customers' towards dimensions of E-banking between public and private banks of NCR. In this research five dimensions of E-banking i.e. Accuracy, Cost Effectiveness, Efficiency, Accessibility and Easy to use have been taken in which all the dimensions of e-banking shows significant difference between public and private banks.

Although this research has provided valuable insights into a somewhat scant area of research, it has been subject to some limitations. The present study is limited with bank customers' perception about e-banking services and there is complete absence of the employees' perception about the e-banking services. The finding of the study is related to the customers' perception of Delhi NCR only, it has not generalised the perception of all the customers across India.

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